

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- Claim 1 (Currently Amended)
- Claim 2 (Cancelled)
- Claim 3 (Cancelled)
- Claim 4 (Previously Amended)
- Claim 5 (Previously Amended)
- Claim 6 (Previously Amended)
- Claim 7 (Previously Amended)
- Claim 8 (Currently Amended)
- Claim 9 (Currently Amended)
- Claim 10 (Cancelled)
- Claim 11 (Cancelled)
- Claim 12 (Previously Amended)
- Claim 13 (Previously Amended)
- Claim 14 (Previously Amended)
- Claim 15 (Previously Amended)
- Claim 16 (Previously Amended)
- Claim 17 (Currently Amended)
- Claim 18 (Currently Amended)
- Claim 19 (Previously Amended)
- Claim 20 (Previously Amended)

CLAIMS:

Amend the claims as follows:

1. (Currently Amended)

An self-enhancing search system comprising:

a search system analysis system that periodically looks through a log  
[[for]] of search queries [[for]] of the search system and identifies, for  
analyzing, unsatisfactory customer search queries that do not bring  
satisfactory results from a database being searched by the customer;

a search query analyzer using one or more of glossary terms ,  
synonyms, known typographical errors and translated words to provide  
alternative query terms to original search query terms in the unsatisfactory  
search queries;

a relevant document finder based on enhanced queries including the  
alternative query terms to locate relevant documents in the searched database  
not found when the unsatisfactory identified search queries were used; and

~~a linking meta-data enhancer linking enhanced query terms in  
documents not found by the unsatisfactory search queries made by customers  
with the original search terms to include new keywords to be automatically  
searched by the search system when the original search terms are used in a  
future query made by a customer; and~~

~~embedding the search query terms of the unsatisfactory search queries  
in the documents located by the enhanced queries.~~

embedding in located relevant documents not found by the unsuccessful search queries those of the original search query terms not contained in those relevant documents.

2. (Cancelled )

3. (Cancelled)

4. (Previously Amended)

The search system of claim 1 including associating enhanced queries with the unsatisfactory search queries in the search system log for use with further queries.

5. (Previously Amended)

The search system of claim 4 including ranking the results of searches using both the unsatisfactory and the enhanced queries.

6. (Previously Amended)

The search system of claim 5, wherein the search query analyzer comprises a module including:

a sub-module that identifies domain specific terms in a given query, using domain specific glossary;

a sub-module that finds synonyms and related terms for the identified terms, using domain specific thesaurus;

a sub-module that finds other statistically close terms; and  
a sub-module that identifies relevant domain specific categories for the identified terms, using domain specific ontology.

7. (Previously Amended)

The search system of claim 6, wherein the relevant document finder comprises a module including the following sub-modules:

a sub-module that finds documents in the identified categories, using an original textual index; and

a sub-module that filters the found documents to find additional relevant documents, based on the identified domain specific terms, synonyms, related terms, and statistically close terms.

8. (Currently Amended)

The search system of claim 7, ~~wherein the~~ including a linking meta-data enhancer ~~comprises a module including~~ with the following sub-modules:

a sub-module that creates associations (links) between each found document and the given query; and

a sub-module that adds new doc-query links to the meta-data of the corresponding textual index entries.

9. (Currently Amended)

A computer program on a computer useable medium for providing a self-enhancing search system comprising:

a search system analog system software module that periodically looks through a log for the search system and ~~identifies~~ selects for analyzing unsuccessful customer search queries ~~that turn up less than a specified number of references;~~

a search query analyzer software module using one or more of glossary terms, synonyms, known typographical errors, and translated words to provide alternative query terms to the terms used in the unsuccessful search queries;

relevant document finder software module ~~based on~~ using enhanced queries including the alternative query terms to locate relevant documents not found using said unsuccessful customer search queries; and

~~a linking software module linking enhanced query terms with the original search terms to include new keywords to be searched automatically by the search system if original search terms are used in a future query; and~~

software for embedding ~~[[the]]~~ search query terms of the unsuccessful queries in the documents located by the enhanced queries and not found by the unsuccessful customer search so that the documents located by the enhanced queries will be found if the unsuccessful customer search queries are repeated.

10. (Cancelled)

11. (Cancelled)

12. (Previously Amended)

The computer program for search system of claim 9 including software for providing associated enhanced queries with the unsatisfactory queries in the search system log for use in connection with further customer queries.

13. (Previously Amended)

The computer program for the search system of claim 12 including software for ranking the results of searches in order of their pertinency using the enhanced query terms as a ranking basis.

14. (Previously Amended)

The computer program for search system of claim 13, wherein the search query analyzer software module comprises:

- a software sub-module that identifies domain specific terms in a given query, using domain specific glossary;

- a software sub-module that finds synonyms and related terms for the identified terms, using domain specific thesaurus;

- a software sub-module that finds other statistically close terms; and

- a software sub-module that identifies relevant domain specific categories for the identified terms, using domain specific ontology.

15. (Previously Amended)

The computer program for the search system of claim 14, including a document finder module that comprises the following software sub-modules:

a software sub-module that finds documents in the identified categories, using the original textual index; and

a software sub-module that filters the found documents to find additional relevant documents, based on the identified domain specific terms, synonyms, related terms, and statistically close terms.

16. (Previously Amended)

The computer program for the search system of claim 15, wherein a meta-data enhancer module comprises the following sub-modules:

a software sub-module that creates associations (links) between each found document and the given query; and

a software sub-module that adds new doc-query links to the meta-data of the corresponding textual index entries.

17. (Currently Amended)

A self-enhancing search system comprising:

a search system analysis system that periodically looks through the search system log and identifies for analysis unsatisfactory customer search queries that do not cite more than a specified number of documents;

a search query analyzer using one or more glossary terms, synonyms, known typographical errors, and translated words to provide alternative query terms to original query terms of the unsatisfactory customer search queries identified by the search system analysis system;

a relevant document finder based on enhanced queries including the alternative query terms to locate relevant documents not found by the original ~~search~~ unsatisfactory customer search queries identified by the search system analysis system; and

a meta-data enhancer creating separate enhanced links to one or more of said relevant documents linking to said relevant documents the original terms of the unsatisfactory search queries and not found in the relevant documents so that future search queries using the original terms will result in finding said relevant documents not found by the unsatisfactory customer search queries.

18. (Currently Amended)

The search system of claim 17 wherein, said meta-data enhancer links the ~~enhanced~~ alternative query terms to the original query terms to automatically locate said relevant documents.



19. (Previously Amended)

The search system of claim 18, wherein the relevant document finder comprises the following sub-modules:

a sub-module that finds documents in identified categories, using the original terms; and

a sub-module that filters the found documents to find additional relevant documents, based on enhanced terms including one or more of domain specific terms, synonyms, related terms, and statistically close terms.

20. (Previously Amended)

The search system of claim 19, wherein the meta-data enhancer comprises the following sub-modules:

a sub-module that creates associations (links) between each found document and the original query; and

a sub-module that adds new links to the meta-data of the corresponding textual index entries.